The Cooperative Training Program in Civil Engineering at Purdue University

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The Cooperative Training Program in Civil Engineering at Purdue University was approved by the President and Board of Trustees of the University and officially came into being on February 1, 1955.

The Purpose of the University-Industry Cooperative Program is to provide for the integration of classroom work and practical experience in an organized program under which periods of attendance in school are alternated with periods of employment in Industry.

Objectives of the Program

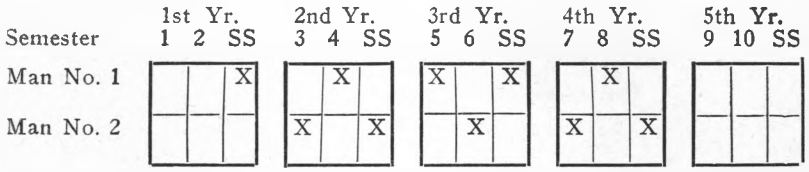
1. Provide the engineering student with the advantages of an integration of classroom work with practical civil engineering experience.
2. Stimulate greater interest in the student for his technical courses through the impact of practical experience.
3. Encourage the engineering or prospective engineering student to enter the civil engineering field and to seek employment after graduation with the industry with which he worked.
4. Provide industry with needed technical personnel.
5. Provide the college student with some of the financial means needed to pursue his civil engineering education.

Program

The program will operate under the following policies:

1. The men are placed individually or two men can share a given job in a cooperating industry. While one man is in school, a second man is on the job, the two alternating in filling the job and going to school. Thus a job would be continually filled as illustrated in the calendar below:

Basic Calendar



2. The student does not enter the program until the end of his freshman year and also remains on the campus for an uninterrupted senior year. Each student can complete the program in five years and during that time working two summer periods and three semester periods with the Co-operating Industry and participating in the regular academic sessions.

3. The approximate time and duration of the three work periods are September 20-January 30—18 weeks, February 1-May 30—18 weeks, June 1-September 20—16 weeks.

4. Students will be selected from the applicants by the Civil Engineering Cooperative Educational Committee, after successful completion of the freshman year.

5. Once a student has accepted employment with an industry under this program, he will be encouraged to complete the program. Permission to change industries or to leave the program will be subject to approval of the Cooperative Committee. A replacement could be assigned by the Cooperative Committee from among similarly qualified student applicants if a student is permitted to leave the program.

6. In order to continue in the program, the student will be required to maintain an academic and disciplinary record in conformance with University regulations and a satisfactory record with the industry. An unsatisfactory report from either, after confirming investigation by the Cooperative Committee, will be cause for dismissal from the program.

7. While working in industry the student will be registered for a non-credit course in the University. At the end of each work period, the student will submit a report of the work period to the Cooperative Committee.

8. Upon satisfactory completion of the five-year Cooperative Program, the student will be granted a Bachelor of Science degree and a certificate showing that he completed the Co-operative Education Program.

9. Each cooperating industry will employ the student in some phase of Civil Engineering work which will be of such character and level of difficulty as will supplement and utilize the technical background of the student and further his educational development. The student assignment should also increase in difficulty and responsibility commensurate with his abilities as he progresses through the program and should be as diversified as possible in order to afford a variety of experience. All, or some of the employment could, perhaps be integrated with an In-Training Program for graduate engineers.

10. Interested industries will submit to the Cooperative Committee a complete, tentative, student work program for approval prior to its admittance into the program.

11. The student's academic schedule differs very little from that of a regular Civil Engineering student. (Seven semester periods and three summer sessions instead of eight semester periods and one summer session for the regular student.) Most undergraduate courses are offered each semester and will be available as required by the student. Students should be encouraged to obtain credit by examination for certain academic courses on the basis of experience gained in this program as provided in University regulations.

12. The student will be encouraged to complete some academic studies while employed in industry at nearby extension centers or other colleges. Each cooperating Industry is also encouraged to offer the student while on the job as much of a formal education program as is commensurate with good personnel practice.

13. The student will be registered in the University while employed in industry in the following Civil Engineering Practice course for which he is eligible:

Civil Engineering Practice I—
1st Work Period—CE 191

Civil Engineering Practice II—
2nd Work Period—CE 291

Civil Engineering Practice III—
3rd Work Period—CE 391

Civil Engineering Practice IV—
4th Work Period—CE 491

Civil Engineering Practice V—
5th Work Period—CE 492

Academic credit will be 0, and the student assignment will consist of practice in civil engineering in industry and comprehensive written reports of this practice. The registration fee for each of these work periods with industry in $60. While a student is registered in any one of the Civil Engineering Practice periods and working with industry, his military status will be the same as if he were studying on the campus.

14. The Civil Engineering Cooperative Educational Committee appointed by Professor K. B. Woods, Head of the School of Civil Engineering, is composed of the following:

Professor Ben H. Petty, Professor Frank W. Stubbs, Jr., and Professor B. B. Lewis, Chairman.

This committee is charged with maintaining the cooperative program, recruiting cooperative industries and student participants.

At the present time we have students in this program with the Indiana State Highway Department, two steel companies, a railway, and an engineering firm.

Several other industries have indicated that they are interested in the program. I have yet to talk to a boy who has been in the program who does not like it.

Well-trained and competent engineers are at a premium. The Cooperative Program is one method of assisting a flow of young men into the profession. We at the University find it difficult to find and interest young men in the plan because we do not have contact with high school students.

A report of the Commission on Human Resources and Ad-

vanced Training shows that 47 per cent of the top high school graduates with ability do not go to college at all. The main reasons given were:

1. Lack of Motivation.
2. Lack of Finances.

Here is a source of talent that should be tapped. I suggest that the Highway Department survey the families of their employees and ascertain if there are sons in high school who might have the interest and ability to pursue engineering as a profession. Each of you are prominent in your locality and you could work closely with your local high school to pick one or more outstanding candidates each year.

The Co-operative Program can furnish the answer to the student who cannot attend college because he lacks sufficient funds. The program can also serve as a method of motivation for education by stimulating the student's interest in the engineering field. The above two reasons are considered the main cause of the loss of capable men in engineering. By providing the answer to these difficulties, we can benefit all concerned.